Omeprazole, a potent CYP2C19 inhibitor, does not alter the pharmacokinetics or platelet aggregation of aspirin and dipyridamole in combination

**BACKGROUND**

- **Aspirin** with **enteric-coated dipyridamole** (ASA+ER-DP) is an established treatment option for the prevention of secondary cerebrovascular stroke.
- **Omeprazole** (OMEP), a potent p-glycoprotein inhibitor (P-gp), is utilized for the treatment of gastroesophageal reflux disease (GERD) and functional abdominal pain, thus requiring the use of dual gastrointestinal (GI) protection in patients receiving antiplatelet therapy.

**Aim of our study was to show that PPIs do not interfere with maintenance of therapeutic plasma DP levels or the pharmacodynamic effects of ASA.

**METHODS**

- **Studies:** Multiple-dose, open-label, randomized, crossover trial involving 4 7-day treatments.
- **Drug regimens:** ASA+ER-DP was administered as Aggrenox® 25 mg/200 mg once capsule bid (Boehringer Ingelheim Pharmaceuticals, Ridgefield, CT, USA).
- **Combination treatments were administered after ASA+ER-DP to determine whether concomitant OMEP (20 mg qd) altered platelet aggregation (IPA) when ASA+ER-DP was administered in healthy subjects (Figure 1).

**Primary endpoints:**

- ASA PD: Aspirin pharmacokinetics (PK) and pharmacodynamics (PD) of ASA+ER-DP.
- Secondary endpoints: ASA+ER-DP and OMEP were evaluated in plasma for a full PK time course obtained on day 7 of treatments A, B, and D.

**Statistical methods:**

- For secondary endpoints of IPA values, IPA% was derived from the measurement of PA and calculated using the following formula: IPA% = [1 – (PA_t/PA_0)] × 100%, in which PA_t = PA measured at time t.
- **RESULTS**

- IPA was nearly identical regardless of the presence or absence of OMEP.
- The extent of IPA was nearly identical for the presence or absence of OMEP.
- IPA% was not different after the PK of ASA+ER-DP alone.

**CONCLUSIONS**

- The PK of the DP component was not altered by OMEP.
- The effect of the PPI on the primary and secondary PK parameters of ASA in the absence of OMEP was similar to the PK of ASA+ER-DP alone.

**REFERENCES**


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